Kent Academic Repository

Downloaded from

The version of record is available from

This document version

Publisher pdf

DOI for this version

Licence for this version

Additional information

Versions of research works

Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title of Journal* , Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

Enquiries

If you have questions about this document contact ResearchSupport@kent.ac.uk. Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies).

Gender Stereotypes in Young Children's Magazines

Lauren Spinner, Lindsey Cameron & Harriet R. Tenenbaum

View supplementary material 🗗

Published online: 06 Apr 2022.

Submit your article to this journal 🗗

Article views: 2951

View related articles 🗗

View Crossmark data 🗗

Routledge
Taylor & Francis Group

Gender Stereotypes in Young Children's Magazines

Lauren Spinner[a], Lindsey Cameron[a], and Harriet R. Tenenbaum[b]

[a]School of Psychology, University of Kent Canterbury, UK; [b]School of Psychology, University of Surrey Guildford, UK

Abstract
In two studies, we investigated the prevalence of gender stereotypes in print magazines targeted at 2- to 9-year-olds, analyzing three crucial and distinct aspects of children's magazines: the front cover, the magazine content, and featured activities. Study 1 focused on the front covers of 106 children's print magazines aimed at audiences of either girls, boys, or both boys and girls. Content analyses revealed that magazines aimed solely at boys or girls displayed gender-stereotypic colors and more same-than other-gender characters. Front covers aimed at girls contained no speaking characters and, compared to front covers aimed at boys, displayed more words related to appearance. Study 2 analyzed the content of 42 magazine issues. Magazines aimed at girls were most likely to incorporate the themes of fashion and home, to instruct the reader to ask for an adult's help with an activity, and less likely to include activities labeled as educational than were magazines aimed at boys or both girls and boys. In contrast, magazines aimed at boys were most likely to incorporate the theme of jobs. Overall, findings suggest that gender stereotypical messages are embedded throughout young children's magazines, which are tailored in their style and content based on their target audience.

Introduction

Everyday resources such as media support children in learning about the cultural practices and beliefs of their communities by offering guidance as they revise folk theories of physical and social worlds. The cultural tools present in communities shape everyday interactions (Rogoff, 2003; Rogoff

---

et al., 2014). Our focus is on examining how one of these tools, young children's print magazines, may convey gender-stereotypic messages. Specifically, the research focuses on three crucial and distinct aspects of children's magazines: the front cover, the magazine editorial content, and, unique to this medium, featured activities that children may complete with parents. Although other forms of media (e.g., books) have received scholarly attention, children's print magazines have been largely overlooked despite their popularity in the UK (see, Statista, 2016, for circulation statistics) and across Europe. This study is the first to examine whether young children's magazines are produced differently in both style and content depending on whether they are aimed at girls, boys, or both.

Theoretical background

Sociocultural and cultivation theories inform this study. Central to sociocultural theory are cultural tools (Vygotsky, 1987; Wertsch, 1993, 2017), such as media, which direct development and learning within a cultural context. Such tools can exert a powerful force on children's folk theories of the social world. One way that young children's magazines may influence children's folk theories is through shaping conversations in which children participate actively, and by creating opportunities for the practice of gendered behaviors (Rogoff et al., 2018). Indeed, artifacts, such as booklets, influence parent-child conversations (Tenenbaum et al., 2010b). Magazines may similarly shape conversations parents have with children.

Theories stemming from media analysis also provide evidence that magazines may have a role in the development of children's gender cognitions. Cultivation analysis suggests that the repetition of themes and stereotypes over time in the media leads individuals to cultivate beliefs about the world matching media content (Gerbner, 1998; Potter, 2014). Boys and girls are transformed into masculine- and feminine-stereotyped adults through gender socialization processes, with higher exposure leading to a greater intensity of effects. The drench hypothesis posits that the effect media messages have on children is particularly strong when portrayed by their favorite characters and television shows (Aubrey & Harrison, 2004). Many children's magazines include, or are based on, these.

Children's print magazines

Children's magazines are a popular form of media throughout Europe. In the UK alone, 1.8 million children's print magazines were sold in 2015 (Statista, 2016; year sampling occurred) with similar numbers sold in 2018 (Statista, 2019). Children's magazines are available at supermarkets, newsagents, toy stores, and airports. To our knowledge, the only study that has

examined the prevalence of gender-stereotypic messages in children's magazines was with a Japanese magazine sample and focused on preschool-aged girls' magazines (Hata, 2014). The current studies extend prior research by a) exploring the editorial content of magazines targeted at girls, at boys, and at both boys and girls (gender neutral), and b) providing the first systematic examination of gender stereotypes in three distinct aspects of children's magazines: the front cover (Study 1), the magazine content, and featured activities (Study 2).

The front cover may draw parents and children to purchase the magazine because covers have the potential to increase sales (Johnson, 2002, as cited in Pompper, Lee, & Lerner, 2009). At the same time, the prevalence of these magazines drenches children in gendered messages whether they purchase the magazines or not. For those who do purchase them, the content inside may influence children's everyday interactions. Therefore, we must examine both the magazine front covers and content. Finally, a unique aspect of children's magazines is their inclusion of activities (e.g., puzzles and games). Such activities are not evident in other forms of media such as television. The second study investigates the extent to which activities featured in children's magazines conform to gender stereotypes.

The present study

Although there is work on magazines in adults (Grow, 2002; Kitch, 2001; Pompper, Soto, & Piel, 2007), little research has examined the extent to which children's magazines conform to gender stereotypes. The first study is a content analysis of the information presented on the front covers of girls', boys', and gender-neutral magazines. The target audience was determined via information from the publisher (Newsstand, 2019). We coded: character behavior (active or passive, and if those who were coded as passive were posing), speaking frequency of male and female characters, the prevalence of the themes risk and appearance, the predominant color scheme of the magazine front cover, and the number of male and female characters present.

Literature review

Personality characteristics and behaviors

Because of the dearth of research on children's magazines, our literature review and rationale for our present research draws from research on gender stereotypes found in other children's media. Gender-normative attitudes and behaviors, and their accompanying stereotypes, dominate children's media and popular culture from television (Walsh & Leaper, 2020), commercials (Bakir, 2013; Kahlenberg & Hein, 2010), children's books (Hamilton et al., 2006; Pompper & Merskin, 2020), and even

Halloween costumes (Murnen et al., 2016). UK television presents boys more than girls as physically aggressive (Coyne & Archer, 2004), while US television presents boys more than girls as dominant and achieving goals (Aubrey & Harrison, 2004). In children's television shows, males say more, dominating the screen verbally (Smith & Cook, 2008). Even children's commercials airing in the United States depict boy groups as more competitive than girl groups (Kahlenberg & Hein, 2010), and boys are depicted in a greater number of major and occupational roles (Davis, 2003). Thus, boys are generally presented as active more than girls are. Conversely, in children's advertising, girls are almost three times more likely to be portrayed in domestic settings than are boys (Strom Larson, 2001). Additionally, female characters are portrayed in gender stereotypic ways via body language (e.g., assuming deferential and passive positions; Davis, 2003). Media aimed at girls are also more likely to focus on appearance and beauty than media aimed at boys (e.g., Aubrey & Harrison, 2004; Reich et al., 2018).

Similarly, children's books show boys more than girls as active (Berry & Wilkins, 2017; Sovič & Hus, 2015), having a greater range of occupations (Brugeilles et al., 2002), and being adventurous and heroic (Hamilton et al., 2006). In notable and award-winning children's books, females were depicted in gender stereotypic ways by residing in home settings, exhibiting nurturing behavior, and occupying typically feminine job roles (Hamilton et al., 2006). In contrast, males engage in adventurous behavior, outdoor activities, and fix mechanical objects (Brugeilles et al., 2002; Hamilton et al., 2006). In children's fiction, girl characters are positioned as having less expertise than boy characters who are agentic, heroic risk-takers in children's toys, such as Lego (Reich et al., 2018).

Finally, the only study (to our knowledge) to look at children's magazines found that gender stereotypes are also evident in magazines. Preschool magazines in Japan targeting girls were more likely to invoke fashion and food themes than magazines targeting boys (Hata, 2014). In sum, the findings from television, books, and toys suggest a world in which boys are more active, heroic, and adventurous than are girls.

Color

In addition to personality characteristics and behavior, another clear indicator of gender is color schemes, which have also been found to dominate children's media. For instance, Berry and Wilkins (2017) analyzed gender representations of anthropomorphized characters in 103 children's books published from 1930 to 2017. Red and blue (typically seen as masculine) were the prominent colors on 40% of the book front covers with male main characters, whereas female characters were often colored pink. These color schemes act as signposts because they are clear indicators of gender norms

(Sweet, 2014). Blue has been associated with boys and pink with girls since the 1940s (Paoletti, 2012).

Gender of characters

Children trust and are more likely to learn from same-gender more than other-gender models (Ma & Woolley, 2013). Therefore, we wanted to understand in Study 1 if magazine front covers gender-matched the character to the audience to reinforce the target.

Differences have been found in the number of male and female characters presented in children's media (Aubrey & Harrison, 2004; Berry & Wilkins, 2017). For example, when comparing children's television programs shown in India, researchers found that male characters outnumbered female characters at 3:1. This unequal gender ratio was also evident in shows from the USA and Japan, indicating that female characters are significantly under-represented in children's television, with ratios not reflecting real-world populations (Rozario et al., 2017; Walsh & Leaper, 2020). In picture books in preschool classrooms, males are overrepresented (Filipović, 2018; Pompper & Merskin, 2020) and even cereal boxes in the US display twice as many male than female characters (Black et al., 2009). Male characters are also granted more speaking time than female characters in children's TV shows (see, Signorielli, 2012; Leaper, 2014, though see, Walsh & Leaper, 2020).

Hypotheses

Based on the above findings, we formulated a number of hypotheses related to personality and behaviors, colors, and numbers of gender characters. First, based on findings by Berry and Wilkins (2017) and others, we hypothesized that across magazine types we would find significantly more female passive than female active characters, but significantly more male active than male passive characters.

Second, based on Signorielli (2012) and Leaper (2014), we hypothesized a higher number of characters speaking on the front of boys' and gender-neutral magazines compared to girls' magazines, and a significantly higher proportion of male than female speaking characters.

Third, we expected significantly more female than male characters posing across all magazine types (Davis, 2003). We also predicted significantly more words related to appearance than to risk in girls' magazine covers, and significantly higher appearance-related words in girls' magazines than boys' or gender-neutral magazines (e.g., Aubrey & Harrison, 2004; Reich et al., 2018). Conversely, boys' covers were expected to contain more risk-related words than appearance, and we expected that risk-related words would be more common in boys' magazines than girls' or gender-neutral magazines.

Regarding colors, we expected that both boys' and girls' magazines would be presented in gender-stereotypic rather than gender-counterstereotypic or gender-neutral color schemes, and the gender-neutral magazines were expected to be presented in gender neutral colors (Berry & Wilkins, 2017).

Finally, we hypothesized there would be significantly more male than female characters present on the front covers of boys' magazines, whereas on the front covers of girls' magazines there would be significantly more female than male characters. On the front of the gender-neutral magazines, we expected similar numbers of male and female characters. This was based on the premise that the magazine front covers would likely indicate the target audience of the magazine through the gender of the characters displayed, as same-gender models appeal more to children (Ma & Woolley, 2013).

Study 1

Magazine selection

Based on circulation, nine magazines were chosen based on the top-selling magazines in the UK for young children from January 2015 to July 2015 (Audit Bureau of Circulations, 2015). Three magazines were targeted at girls (*Disney's Princess, Disney's Frozen*, and *Sparkle World*), three were targeted at boys (*Fireman Sam, Bob the Builder*, and *Thomas & Friends*), and three were gender neutral (targeted at both boys and girls; *Peppa Pig - Bag O' Fun, CBeebies*, and *Fun to Learn - Peppa Pig*) (as classified by Newsstand, 2019). All were aimed at children younger than 9 years (see Table 1 of the online supplementary material). These magazines have games, stories, puzzles, stickers, coloring, craft, competitions, and other similar activities. All nine magazines also incorporate characters from children's television. Twelve front covers were analyzed for each magazine except for Peppa Pig – Bag O' Fun, which had ten issues. Therefore 106 magazine front covers were analyzed. They were published between January 2015 and December 2015. The front covers were accessed online via www.newsstand.co.uk. Sampling ceased when 12 issues had been coded.

Coding criteria

We followed suggestions by Bakeman and Gottman (1997) in developing coding schemes, training coders, and assessing inter-rater reliability. First, the intended audience (i.e., girls', boys', or neutral) was recorded for each magazine: this was determined via information from the publisher. Second, the total number of male and female characters was counted for front covers. Each character was counted once and characters that did not appear

to be one gender or the other were counted as ambiguous. Third, coders recorded the number of characters speaking who were male and the number who were female on each front cover (scores ranging from 0 to 2): Characters were considered to be speaking only if there was a word bubble next to their mouth which clearly showed the text-speech came from them. Fourth, predominant color schemes of the magazine front covers were examined. The color schemes were defined as gender-stereotypic if they were pink/purple in the magazines targeted at girls, and blue/red/black in the magazines targeted for boys and scored as 1. The color schemes were defined as counter-stereotypic if they were presented in pink/purple in the magazines targeted at boys and blue/red/black in the magazines targeted at girls (see, Paz-Albo Prieto et al., 2017) and scored as 2. The color schemes were defined as gender neutral if they were presented in a variety of colors, and scored as 3. This produced one variable with three categories.

Fifth, the total number of female and male characters displaying active and passive behaviors were counted for each cover. Characters previously identified as ambiguous in gender were excluded from this analysis. Active behavior was defined as physical movement (e.g., running), whereas passive behavior was standing/sitting still or inactivity. Scores ranged from 0 to 20 (20 was the maximum number of active or passive characters on any front cover). When characters were identified as passive, coders also rated whether they were posing. Adapted from Browne (1998), posing was defined as assuming a deferent or position for photographs (i.e., displaying "head, knee, or body cants, child-like postures and displays of appeasement or mock fear," p. 89). The total number of passive characters who were also posing were counted (scores ranged from 0 to 5).

Finally, the number of words related to appearance (e.g., beauty) and risk (e.g., danger) were counted for each cover. Scores ranged from 0 to 5.

Coder training

The first author and two undergraduate female psychology students were coders. The first author created an initial coding framework and met with the coders several times to discuss the coding and practice coding on example issues before independently coding three covers, which were not included in the sample. After practice coding, all coders met to discuss and compare results.

Reliability analysis

Krippendorff's alpha was used to assess inter-coder reliability: an alpha of ≥.65 is considered acceptable, depending upon study goals (Krippendorff, 1980). All coders independently coded 20% of the sample (21 issues). The research questions and variables investigated in the present research had

not been discussed previously. Alpha coeffieicents ranged from .75 to .97 on each variable. Disagreements were resolved through discussion.

Results

Overview of analyses

Because of different numbers of male and female characters, a proportion score was calculated for each of the variables related to character behavior (i.e., female active, female passive, male active, male passive, female posing, male posing, male speaking, female speaking). This score was created by dividing the number of instances of behavior (e.g., female active) by the total number of characters of the same gender in each type of magazine (e.g., total number of female characters in girls' magazines). For all other variables (i.e., numbers of male and female characters, color schemes, number of speaking characters, appearance-related words, and risk-related words), we were interested in whether the total frequencies differed by magazine type, so we used total numbers.

Mixed Analysis of Variance tests were performed on ratio variables (i.e., variables with an absolute zero), with target audience (girls', boys', gender neutral) included as a between-subjects variable. Non-parametric tests were performed on nominal variables and variables with zero variance. For each of the major variables of interest, we compare across magazine type and then within magazine type. All tests are corrected for sphericity when needed. See Table 2 of the online supplementary material for summary statistics. Statistically significant effects related to the hypotheses are discussed below.

Behaviors

Active and passive

Each character was coded as displaying active or passive behavior. Characters whose behavior was difficult to determine were coded as ambiguous. Only those coded as displaying active or passive behavior were included in this analysis. To examine whether female characters were more passive than active and whether male characters were more active than passive across the different magazines, a 4 (Behavior: male active, male passive, female active, female passive) x 3 (Target audience: girls, boys, gender neutral) mixed ANOVA was performed on the proportion scores for each of these dependent variables, with target audience as a between-subjects factor.

Comparisons across magazine target types

Analyses revealed a main effect of behavior, $F(3, 132) = 3.54$, $p = .016$, $\eta^2_p = .08$. Bonferroni-adjusted pairwise comparisons revealed significantly more male active than female active characters ($p = .026$, $d = 0.35$), and significantly more female passive than male passive characters ($p = .026$, $d = 0.35$) across all magazines. However, refuting hypotheses, there were not significantly more female passive than female active characters, nor more male active than male passive characters overall.

Posing

A paired-samples t-test was conducted on posing proportion scores among male and female characters. No significant gender differences were found, $t(45) = 0.39$, $p = .699$.

Speaking

Comparisons across magazine target types

Overall, only 28.3% ($N = 30$) of covers contained speaking characters. A paired-samples t-test supported the hypothesis that significantly more of the speaking characters would be male than female $t(45) = -2.10$, $p = .041$.

Comparisons between magazine target types

Due to zero variance in cells, a two-way chi-square test was performed to examine the association among the frequency of speaking and magazine type. As hypothesized, analyses revealed that 0% ($N = 0$) of characters (male or female) were speaking on girls' magazines, 56% ($N = 20$) were speaking on boys' magazines, and 29% ($N = 10$) of characters were speaking on neutral magazines, $\chi^2(2) = 27.41$, $p < .001$, Cramer's $V = .51$.

Themes of appearance and risk

Comparisons between magazine target types

To test the hypotheses that appearance-related words would occur significantly more frequently than risk-related words on the front cover of girls' magazines, and vice-versa on the front of boys' magazines, Wilcoxon Signed-Ranks tests were performed (zero variance in some cells).

Analyses revealed that, as expected, the number of appearance-related words was significantly higher than the number of risk-related words on girls' magazines, $Z = -4.31$, $p < .001$. Conversely, the number of risk-related words was significantly higher than the number of appearance-related words on boys' magazines, $Z = -2.33$, $p = .020$.

Kruskal-Wallis H tests were performed on appearance- and risk-related-word scores (ratio data) across the different categories of magazine

(nominal data). Analyses revealed a statistically significant difference in the number of appearance-related words across the different magazine types, χ^2 (2) = 55.67, p < .001. Dunn's pairwise tests (with Bonferroni correction for multiple comparisons) were conducted for the three pairs. There were significantly more appearance-related words present on girls' magazines than on both boys' (p < .001) and gender-neutral magazines (p < .001).

There was also a significant difference in the number of risk-related words across the different magazine types, $\chi^2(2)$ = 13.30, p = .001. Dunn's pairwise tests revealed significantly more risk-related words on the front of boys' magazines than on both girls' (p = .002) and gender-neutral magazines (p = .012).

Color scheme

Each magazine was coded as gender-stereotypic, gender-counter stereotypic, or gender neutral in color. A two-way chi-square test examined the association among color scheme and magazine type. As > 20% of cells had an expected count of less than 5, Fisher's Exact Test is reported (Yates et al., 1999). porting the hypotheses, girls' and boys' magazines were significantly more likely presented in gender-stereotypic (N = 36: 100%; N = 28: 78%, respectively) than gender-counterstereotypic (N = 0: 0%; N = 1: 3%, respectively) or gender neutral colors (N = 0: 0%; N = 7: 19%, respectively). Neutral magazines were more likely presented in gender neutral (N = 33: 97%) than gender-stereotypic (N = 1: 3%) or gender-counterstereotypic colors (N = 0: 0%), χ^2 = 91.01, p < .001, Cramer's V = .61.

Number of characters

Comparison between target of magazine

First, to test the hypothesis that there would be a match between character gender and target of magazine, we examined the number of characters on the cover. The mixed-design ANOVA revealed a significant interaction between the character's gender and target audience, $F(2, 103)$ = 113.26, p < .001, η^2_p = .69. The number of male and female characters presented differed by the magazine's target audience. When comparing the types of magazines to each other, pairwise comparisons (with Bonferroni corrections) revealed that there were significantly more female characters on the front of the girls' magazines than the boys' (p < .001, d = 2.97) and gender-neutral magazines (p < .001, d = 1.51). Conversely, there were significantly more male characters on the front of the boys' magazines than the girls' (p < .001, d = 2.91) and gender-neutral magazines (p < .001, d = 0.82).

Comparisons within individual magazine target types

Further confirming the hypothesis, there were significantly more female characters than male characters on the front of girls' magazines ($p < .001$, $d = 2.85$), and more male characters than female characters on boys' magazines ($p < .001$, $d = 3.13$). Finally, there were equal numbers of male and female characters on the gender-neutral magazines (Table 2 of the online supplementary material displays summary statistics).

Study 1 Discussion

This study examined the prevalence of gender-stereotypic messages portrayed on the front covers of young children's magazines, finding support for the majority of hypotheses. The findings suggest that young children's magazine covers are edited differently in style depending on their target audience. In terms of the characters' behavior, there were significantly more male active than female active characters, and significantly more female passive than male passive characters across all magazines, following gender stereotypes. However, hypotheses regarding these variables were not supported as there were not significantly more female passive than female active characters, nor more male active than male passive characters overall. The characters on the front covers of magazines are less likely to be part of a story due to the more limited content available here, compared to inside the magazines. So, we would expect to observe additional differences in male/female-character behavior, and by magazine type, if the entire contents of the magazines were coded for this.

Interestingly, girls' magazine covers contained no speaking characters, whereas boys' and neutral magazines did. A significantly higher proportion of these speaking characters were male than female reflecting the societal stereotypes of female passivity.

Similar to other children's media (e.g., Kahlenberg & Hein, 2010), appearance was more prevalent than risk on girls' magazines and occurred more frequently than on boys' or neutral magazines, confirming the stereotype that girls' appearance is focused on more than is boys' appearance. Conversely, risk was more prevalent than appearance on the front of boys' magazines and occurred more frequently than in girls' or neutral magazines, supporting previous gender stereotypes for men and boys (Wilbourn & Kee, 2010).

Magazines aimed solely at boys or girls were presented in gender-stereotypic colors. In contrast, gender-neutral magazines were presented in a variety of colors. Girls' magazines contained more female than male characters, whereas boys' magazines contained more male than female characters. There was no difference in the number of male and female characters in gender-neutral magazines. Therefore, the gender-stereotypic nature of boys' and girls' magazines is reinforced through the characters' gender on covers.

Focusing on front covers in Study 1 allowed us to determine how gender stereotypes are communicated to children in external-facing magazine pages. Children may be exposed to many front covers of magazines. Study 2 provides a systematic analysis of the main content and activities in the magazine.

Study 2

Study 2 extended Study 1 by analyzing the editorial content of entire issues of young children's magazines (i.e., not including advertisements). In addition to gendered portrayals of male and female characters, we also examined extension activities. Activities (e.g., crafts, puzzles) are a unique feature of children's magazines, compared with other forms of children's media. We coded the activities for educational content and helplessness.

Historically, a greater emphasis has been placed on boys' than girls' education (Blakemore et al., 2008). Recently, attention has focused on understanding boys' academic underachievement compared to girls' academic achievement in academic (Voyer & Voyer, 2014) and popular (e.g., Parker, 2010) sources. Given the attention that the "boy crisis" garners (Anderson, 2015), we expected that this trend would be reflected in the magazine activities. In the boys' magazines, we predicted that the educational aspect of activities would be highlighted more than in the girls' magazines.

It was also expected that there would be greater emphasis on help-seeking in girls' compared with boys' magazines. Girl characters in children's media are positioned as having less expertise and agency than boy characters (Reich et al., 2018). Meanwhile, help-seeking behavior is more common among preschool girls than boys (Thompson & Moore, 2000). Girls who exhibit help-seeking behaviors are evaluated as less capable (Thompson et al., 2006) reinforcing gender stereotypes. The present study examined whether children are encouraged to seek adult help to complete the magazine activities. We expected that boys' magazines would have more educational activities than would girls', and that the readers of the girls' magazines would be instructed to ask for an adult's help significantly more than readers of the boys' magazines.

Based on other types of media and artifacts, it was expected that in the girls' magazines, significantly more pages would be dedicated to the themes of food, fashion, and home than jobs (Hamilton et al., 2006; Hata, 2014; Kahlenberg & Hein, 2010). Conversely, we expected that the theme of jobs would occur more frequently than any of the other themes in the boys' magazines, and more so than in the girls' or neutral magazines (Reich et al., 2018). We also expected that the themes of food, fashion, and home would occur more in girls' than boys' or gender-neutral magazines. Conversely, we expected the theme of jobs to occur more frequently in the gender-neutral

and boys' than girls' magazines. We expected that male characters would show significantly more instances of bravery and aggression and be rated as overall more active than female characters (Aubrey & Harrison, 2004; Sovič & Hus, 2015). In contrast, we expected that female characters would be depicted engaging in primping behaviors more frequently than male characters.

Method
Magazine selection

The same magazine titles as Study 1 were used. Thus, there were three magazines targeting boys, three magazines targeting girls, and three gender neutral (see, Newsstand, 2019). The issues analyzed for the present study were published between January and June, 2016. Some magazines published issues more frequently than others. However, it was ensured that an equal number of magazines in each target-audience group were included in analysis (N = 14). This was achieved by randomly selecting cases for each target audience using the related function on SPSS. Forty-two issues were coded in total. Table 3 of the online supplementary material details which magazines were analyzed.

Training of coders

Six female undergraduate psychology students analyzed the magazines. A pretest of the coding instrument was completed before analyzing the data. Each coder practiced using the coding scheme on one issue of a magazine that was not in the final analysis. These ratings were discussed with the first author and with each other until it was clear that the coding was understood.

To ensure coders were blind to the hypotheses, coders worked independently, separately coding each issue they were assigned. None of the authors formed part of the coding team.

Reliability analysis

Krippendorff's alpha (Krippendorff, 1980) was used to assess inter-coder reliability. Each coder analyzed the same six magazine issues (14%) using the coding scheme and ceased at this point because it was evident that there was very good reliability between coders. All variables in the present study achieved an alpha between .78 – .98. All discrepancies were resolved through discussion.

Coding scheme

The first author provided copies of the final coding scheme to the coders.

Themes

The total number of pages in each magazine issue dedicated to the following themes were counted: food, fashion, home, and jobs. A page was classified as having a food theme if it displayed pictures of food, referenced cooking/baking, or contained recipes or activities based around making food. A fashion theme was determined if a page had references to clothes, hairstyles, jewelry and/or accessories, whereas a home theme was determined by references to homemaking, such as cleaning, decorating, and caring for children and/or animals. A job theme was determined if a page predominantly made reference to occupations. Four variables (one for each theme) were created with scores ranging from 0 to 35 (35 was the maximum number of pages dedicated to a theme in any issue).

Character behavior

Based on Browne (1998), the total number of occurrences of each behavior were tallied separately for male and female characters to allow for gender comparisons. The behaviors coded included aggression, bravery/rescue, and primping. Aggression was defined as "acting against another person or thing: hitting, throwing, grabbing, loud or abusive talk, face making, and determined behavior (as in aggressively pursuing a goal)" (Browne, 1998, p. 88). Bravery/rescue was defined as a character performing a courageous or daring act, such as rescuing another character from a dangerous situation, and primping was defined as a character acting to improve the appearance of their face or body (Aubrey & Harrison, 2004). Coders were provided with these definitions during training. The coding of these behaviors resulted in six ordinal variables (male aggression, male bravery/rescue, male primping, female aggression, female bravery/rescue, and female primping).

Coders were also asked to rate on a scale of 1 (no activity, passive) to 5 (very high levels of activity) how active overall the male and female characters were. Coders provided one rating for the male characters, and one rating for the female characters, leading to two ordinal variables.

On pages containing activities, coders recorded how often the reader was explicitly instructed to ask for an adult's help (e.g., in words or via symbols). The total number of instances was counted for each issue. One ratio variable, help, was created, with scores ranging from 0–8 (8 was the maximum number of times "adult help" was identified in any one magazine issue). Coders recorded how many of the activity pages were identified as educational, either via symbols or words. A total education score was

calculated for each magazine issue, with scores ranging from 0 to 33. See Table 4 of the online supplementary material for summary statistics.

Results

Themes

Comparisons within individual magazine target types

To test the hypothesis that the themes of food, fashion, and home would occur significantly more frequently than the theme of jobs in the girls' magazines, a repeated-measures ANOVA was performed. There was no difference in occurrence of the themes in the girls' magazines, $F(3, 39) = 1.66$, $p = .19$.

The second hypothesis in relation to themes was that the theme of jobs would occur significantly more frequently than food, fashion, or home in the boys' magazines. Due to zero variance in some cells, a non-parametric Friedman repeated-measures test was conducted on these scores. The test was statistically significant, $\chi^2(2) = 38.81$, $p < .001$: post-hoc comparisons (with Bonferroni correction) revealed that in the boys' magazines the theme of jobs occurred significantly more frequently than the themes of food ($p = .002$), fashion ($p < .001$), or home ($p < .001$).

Comparisons across individual magazine target types

Four separate Kruskal-Wallis H tests were then performed to examine whether the distribution of the themes food, fashion, home, and jobs (ratio data) was the same across the different categories of magazine (nominal data).

Food

Analyses revealed a statistically significant difference in the occurrence of the theme, food, ($\chi^2(2) = 14.96$, $p = .001$), fashion ($\chi^2(2) = 25.77$, $p < .001$), home ($\chi^2(2) = 19.31$, $p < .001$) and jobs ($\chi^2(2) = 13.68$, $p = .001$). Dunn's pairwise tests (with Bonferroni correction for multiple comparisons) were carried out for the three pairs of groups. The "food" theme occurred significantly more frequently in the girls' magazines than in both the boys" ($p < .001$) and gender-neutral magazines ($p = .030$). The "fashion" theme occurred significantly more frequently in the girls' magazines than in both the boys' ($p < .001$) and gender-neutral magazines ($p = .001$). The "home" theme occurred significantly more frequently in the girls' magazines than both the boys' ($p < .001$) and gender-neutral magazines ($p = .010$). The "jobs" theme occurred significantly more frequently in the boys' magazines than both the girls' ($p = .016$) and gender-neutral magazines ($p = .001$).

Character behavior

A proportion score was calculated for each of the variables related to character behavior, as in Study 1.

A 3 (Behavior: Aggression, Bravery/Rescue, Primping) x 2 (Character Gender: male vs female) repeated-measures ANOVA was performed, with both factors included as within-subjects. Analyses revealed a significant main effect of Behavior, $F(2, 82) = 4.72, p = .012, \eta_p^2 = .10$, and a significant Behavior x Character Gender interaction, $F(1.55, 63.46) = 3.68, p = .041, \eta_p^2 = .08$ (Greenhouse-Geisser reported). Pairwise comparisons (with Bonferroni correction) showed that, as hypothesized, a higher proportion of male than female characters displayed aggression ($p = .030$) and a higher proportion of female than male characters demonstrated primping behavior ($p = .019$). However, differences between male and female proportions of bravery were non-significant, contradicting hypotheses ($p = .636$).

Activity levels

A paired-samples t-test was conducted to compare activity levels (ranging from 1 = no activity to 5 = very high levels of activity) in male and female characters. As hypothesized, activity levels of male characters were rated significantly higher than activity levels of female characters, $t(41) = 2.41, p = .021$.

Adult help in activities

To examine the number of times readers were instructed to ask for an adult's help and whether this differed according to the target audience of the magazine, a one-way ANOVA was performed with target audience (girls, boys, neutral) as a between-subjects factor. Analyses revealed a main effect of target audience, $F(2, 39) = 4.87, p = .01, \eta_p^2 = 0.20$. Supporting the hypothesis, post-hoc tests (with Bonferroni correction) revealed that instructions to ask for an adult's help were present significantly more in the girls' magazines than in both the boys' ($p = .023, d = 1.06$), and the neutral magazines ($p = .041, d = 0.88$). There were no differences between the boys' magazines and gender-neutral magazines ($p = 1.00$).

Educational activities

To examine whether the number of activities explicitly identified as educational differed according to the target audience of the magazine, a one-way ANOVA was performed with target audience (girls, boys, neutral) as a between-subjects variable. The Brown-Forsythe adjusted statistic revealed a significant main effect of target audience, $F(2, 26.82) = 13.93, p < .001$.

Pairwise comparisons indicated that a significantly higher number of activities were identified as educational in both the boys' ($p < .001$) and neutral magazines ($p = .001$), than the girls' magazines (Games-Howell statistics are reported as these are adjusted for the violation of homogeneity of variance). There was no difference between boys' and neutral magazines ($p = .081$).

Study 2 Discussion

Overall, this in-depth analysis of young children's magazine supports previous research that has demonstrated gender-typed behavior of male and female characters in children's media (e.g., Hata, 2014), and extends this work by demonstrating that these stereotypes also exist in young children's magazines, as well as uncovering the stereotypical nature of magazine activities. As expected, the theme of jobs occurred more frequently than the themes of food, fashion, and home in boys' magazine, while these latter themes were found significantly more frequently in the girls' magazines. Furthermore, the theme of jobs, was found more frequently in the boys' than girls' or gender-neutral magazines. As expected, female characters displayed significantly more primping behavior than males, while male characters displayed significantly more aggression and were rated as more active than females.

The activities featured were consistent with gender stereotypes: Instructions to seek adult help were included significantly more frequently in the girls' magazines than the boys' or neutral magazines, and a significantly greater number of activities were identified as educational in the boys' and neutral magazines compared to the girls' magazines. These findings strengthen notions that girls are less independent than boys and require more assistance. Girls may appropriate such messages and engage in help-seeking more than do boys (Thompson et al., 2012). From a sociocultural perspective (Rogoff et al., 2014), everyday conversations, prompted by tools such as magazines, can provide young children with implicit information about the beliefs of their communities (Tenenbaum, 2009). Children's active participation in conversations prompted by magazines may lead them to enact gender in their future interaction and strengthen gender stereotypic beliefs and behaviors (Leman & Tenenbaum, 2014).

General discussion

The current research extends prior research on gender stereotypes in children's media in a number of ways. First, this research provides the first systematic examination of the content of magazines aimed at girls, boys, and both girls and boys, focusing on three crucial and distinct aspects of children's magazines: the front cover, the magazine editorial content, and featured activities. Each of these magazine features provides a potential means of influencing children's gender

stereotypes, through the eye-catching front cover, to story and character development in the main pages, and through more interactive activities included in the magazine. The research uncovered gender stereotypic content in all three of these features. For example, characters were depicted engaging in gender-typed behaviors, the magazine front covers were presented in gender-stereotypic colors for their target audience, the themes covered followed gendered norms, and magazines targeting girls included fewer educational activities and more instructions for help-seeking than those targeting boys or girls and boys. The evidence that magazines targeted at boys *and* girls contain less stereotypic information demonstrates that the portrayal of gender norms is in line with target audiences.

Different theoretical perspectives can contribute to an understanding of the ways in which magazines may reflect and contribute to ideas about gender appropriate behaviors.

For example, cultivation analysis (Gerbner, 1998) posits that repetition of themes and stereotypes in the media lead viewers to appropriate beliefs from media content. The portrayals uncovered in these magazines provide information for children who slowly elaborate their conventional schemas about gender throughout middle childhood (Tenenbaum et al., 2010a).

From a sociocultural perspective, children's magazines can be viewed as cultural tools that influence children's folk theories via content directly consumed by children, and through interactions with caregivers shaped by the magazine features and activities. Different types of artifacts influence the content of parent-child conversations (Tenenbaum et al., 2010b). The activities in the different types of magazines may bring about conditions for gender stereotypical interactions with parents that reinforce stereotypical societal expectations of girls and boys.

The current findings are particularly concerning for girls given that magazines targeted at them were likely to focus on appearance and the home, and significantly less likely to focus on jobs and highlight educational activities than those targeted at boys. These archaic messages do little to promote gender equality and signify to girls that their interests should remain in the domain of appearance and the home and appear to promote dependence in girls. Indeed, work has suggested that girls often engage in help-seeking more than do boys (Thompson et al., 2012). The magazines also encourage boys to think more about future goals by referring to jobs and education. These findings provide support to feminist scholars (e.g., Anderson, 2015) who question whether boys have been marginalized in education. Our research indicates that the activities and themes may instead stifle girls' aspirations and limit their interests.

Finally, there are a number of practical implications regarding the design and content of young children's magazines. Attempts should be made by researchers to inform parents and marketers of the limitations these gender stereotypic messages can have, with a view to minimizing their portrayal via children's media sources which can influence gender-stereotyped attitudes

(Ward & Friedman, 2006). Exposure to media messages is related to children's attitudes, with positive relationships found between time spent watching television and the strength of gender-stereotyped attitudes (Gerbner et al., 2002; Signorielli, 2001; Ward & Friedman, 2006). However, exposure to counter-stereotypic models via magazines can lead to an increase in young children's gender flexibility around the toys that boys and girls can play with and in playmate choice (Spinner et al., 2018).

By including more counter-stereotypic examples of male and female characters, not only will children benefit from viewing greater flexibility in gender norms, but marketers may also benefit by increasing readership numbers as the items become more appealing to both male and female audiences (Fine & Rush, 2018). Of the magazines included in the present studies, the gender-neutral magazines, on average, sold more copies than the magazines aimed just at boys or girls, which supports the suggestion that marketers may increase readership if they move beyond gender stereotypic content. Interestingly, magazines targeted at boys had the lowest sales figure on average, which may represent a gender stereotype in itself, that boys are less engaged with reading than girls are.

Limitations and Future Research

The current research focuses on determining the extent to which young children's media conforms to and communicates gender stereotypes and does not examine the precise impact of this content on children's stereotypes. One limitation is that we do not know the number of magazines targeting girls, boys, and both. We tried to take this limitation into account in our methodology by making sure we coded equal numbers of all types of magazines. Another limitation is that we only coded six months of magazines and perhaps there were occurrences in the autumn that affected these findings. A longer time period may give us greater insight into cultural changes, moreover, such as work by Pompper et al. (2009) on differences of men's and women's portrayals on front covers across a much larger timespan.

Future research also needs to examine digital forms of media, such as technological applications (apps) because more than 96% of US 4-year-olds use mobile devices (Kabali et al., 2015). Moreover, many apps target children (Hirsh-Pasek et al., 2015). Thus, a content analyses of these forms of media will need to be undertaken to understand whether new media also conform to gender stereotypes.

Conclusion

In sum, these studies suggest that children's magazines present stereotypical portrayals of gender and encourage stereotyped behaviors in girls, such as

help-seeking and dependence on figures of authority. Supporting social and cultivation theories, these studies contribute to our understanding of the socio-cultural milieu in which children are reared, providing insight into the larger ecological belief and value systems in which children develop. It is clear from these studies that children's magazines create opportunities for the practice of gendered behaviors and conversations, in line with other forms of media. In terms of practical applications, parents and magazine editors need to become aware of the gender stereotypes prevalent in the magazines because these messages may contribute to children's gender beliefs in the future. Reducing gendered messages in children's magazines may contribute to a more gender fair and neutral society.

Notes on contributors

Dr Lauren Spinner's research examines the social influences which contribute to and reinforce gender norms in children, such as parents, peers, and the media, as well as interventions to reduce gender stereotyping in young children.

Dr Lindsey Cameron is a Reader in Psychology whose area of research is social developmental psychology. She is interested in how children become 'social beings': how do children develop the social knowledge and skills that we have as adults take for granted? Specifically, she is interested in how inter-group processes develop throughout childhood.

Dr Harriet R. Tenenbaum is a Reader in Developmental Psychology, interested in how children and adolescents learn about the social and physical world. Her research focuses specifically on how children develop their understanding of social issues (e.g., discrimination and rights), emotion, and scientific topics.

References

Anderson, K. J. (2015). *Modern misogyny: Anti-feminism in a post-feminist era.* Oxford University Press.

Aubrey, J. S., & Harrison, K. (2004). The Gender-Role Content of Children's Favorite Television Programs and Its Links to Their Gender-Related Perceptions. *Media Psychology*, 6(2), 111–146. https://doi.org/10.1207/s1532785xmep0602_1

Audit Bureau of Circulations. (2015). *ABC Market Summary Report January – July 2015.* https://www.abc.org.uk/data/reports-and-analysis

Bakeman, R., & Gottman, J. M. (1997). *Observing interaction: An introduction to sequential analysis.* Cambridge University Press.

Bakir, A. (2013). Character portrayal: Examining gender roles in television commercials targeted at children in India and the United States. *Journal of Global Marketing*, 26(2), 57–67. https://doi.org/10.1080/08911762.2013.804612

Berry, T., & Wilkins, J. (2017). The gendered portrayal of inanimate characters in children's books. *Journal of Children's Literature*, 43(2), 4–15.

Black, K. A., Marola, J. A., Littman, A. I., Chrisler, J. C., & Neace, W. P. (2009). Gender and form of cereal box characters: Different medium, same disparity. *Sex Roles*, 60(11–12), 882–889. https://doi.org/10.1007/s11199-008-9579-z

Blakemore, J. O., Berenbaum, S. A., & Liben, L. S. (2008). *Gender Development.* Psychology Press.

Browne, B. A. (1998). Gender Stereotypes in Advertising on Children's Television in the 1990s: A Cross-National Analysis. *Journal of Advertising*, 27(1), 83–96. https://doi.org/10.1080/00913367.1998.10673544

Brugeilles, C., Cromer, I., Cromer, S., & Andreyev, Z. (2002). Male and female characters in illustrated children's books or how children's literature contributes to the construction of gender. *Population*, 57(2), 237–267. https://doi.org/10.2307/3246609

Coyne, S. M., & Archer, J. (2004). Indirect aggression in the media: A content analysis of British television programs. *Aggressive Behavior*, 30(3), 254–271. https://doi.org/10.1002/ab.20022

Davis, S. N. (2003). Sex stereotypes in commercials targeted toward children: A content analysis. *Sociological Spectrum*, 23(4), 407–424. https://doi.org/10.1080/02732170309220

Filipović, K. (2018). Gender representation in children's books: Case of an early childhood setting. *Journal of Research in Childhood Education*, 32(3), 310–325. https://doi.org/10.1080/02568543.2018.1464086

Fine, C., & Rush, E. (2018). "Why does all the girls have to buy pink stuff?" The ethics and science of the gendered toy marketing debate. *Journal of Business Ethics*, 149(4), 769–784. https://doi.org/10.1007/s10551-016-3080-3

Gerbner, G. (1998). Cultivation analysis: An overview. *Mass Communication and Society*, 1(3–4), 175–194. https://doi.org/10.1080/15205436.1998.9677855

Gerbner, G., Gross, L., Morgan, M., Signorielli, N., & Shanahan, J. (2002). Growing up with television: Cultivation processes. In J. Bryant &, and D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 43–67). Lawrence Erlbaum Associates Publishers.

Grow, G. (2002). Magazine covers and cover lines: An illustrated history. *Journal of Magazine and New Media Research*, 5(1), 1–19. https://silo.tips/download/magazine-covers-and-cover-lines-an-illustrated-history-gerald-grow-phd-florida-a

Hamilton, M. C., Anderson, D., Broaddus, M., & Young, K. (2006). Gender stereotyping and under-representation of female characters in 200 popular children's picture books: A twenty-first century update. *Sex Roles*, *55*(11–12), 757–765. https://doi.org/10.1007/s11199-006-9128-6

Hata, M. (2014). Preschool girls and the media: How magazines describe and depict gender norms. *International Journal of Early Childhood*, *46*(3), 373–389. https://doi.org/10.1007/s13158-014-0123-8

Hirsh-Pasek, K., Zosh, J. M., Golinkoff, R. M., Gray, J. H., Robb, M. B., & Kaufman, J. (2015). Putting education in "educational" apps: Lessons from the science of learning. *Psychological Science in the Public Interest*, *16*(1), 3–34. https://doi.org/10.1177/1529100615569721

Kabali, H. K., Irigoyen, M. M., Nunez-Davis, R., Budacki, J. G., Mohanty, S. H., Leister, K. P., & Bonner, R. L., Jr. (2015). Exposure and use of mobile media Devices by young children. *Pediatrics*, *136*(6), 1044–1050. https://doi.org/10.1542/peds.2015-2151

Kahlenberg, S. G., & Hein, M. M. (2010). Progression on nickelodeon? Gender-role stereotypes in toy commercials. *Sex Roles*, *62*(11–12), 830–847. https://doi.org/10.1007/s11199-009-9653-1

Kitch, C. (2001). *The girl on the magazine cover: The origins of visual stereotypes in American mass media.* University of North Carolina Press. Retrieved May 11, 2021, from http://www.jstor.org/stable/10.5149/9780807898956_kitch

Krippendorff, K. 1980. Validity in content analysis. E. Mochmann. Ed., *Computerstrategien für die Kommunikationsanalyse* 69–112. Campus. http://repository.upenn.edu/asc_papers/291

Leaper, C. (2014). Gender similarities and differences in language. In T. M. Holtgraves (Ed.), *The Oxford handbook of language and social psychology* (pp. 62–81). New York, NY: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199838639.013.002

Leman, P. J., & Tenenbaum, H. R. (Eds.). (2014). *Current issues in developmental psychology. Gender and development.* Psychology Press.

Ma, L., & Woolley, J. D. (2013). Young Children's Sensitivity to Speaker Gender When Learning From Others. *Journal of Cognition and Development*, *14*(1), 100–119. https://doi.org/10.1080/15248372.2011.638687

Murnen, S. K., Greenfield, C., Younger, A., & Boyd, H. (2016). Boys act and girls appear: A content analysis of gender stereotypes associated with characters in children's popular culture. *Sex Roles*, *74*(1–2), 78–91. https://doi.org/10.1007/s11199-015-0558-x

Newsstand (2019). https://www.newsstand.co.uk/

Paoletti, J. (2012). *Pink and blue: Telling the boys from the girls in America.* Indiana University Press. http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2012-08701-000&site=ehost-live

Parker, K. (2010). *Save the males: Why men matter why women should care.* Random House Incorporated.

Paz-Albo Prieto, J., Cvencek, D., Llácer, C. V., Escobar, A. H., & Meltzoff, A. N. (2017). Preschoolers' mathematical play and colour preferences: A new window into the development of gendered beliefs about math. *Early Child Development and Care*, *187*(8), 1273–1283. https://doi.org/10.1080/03004430.2017.1295234

Pompper, D., Lee, S., & Lerner, S. (2009). Gauging outcomes of 1960s social equality movements: Nearly four decades of gender & ethnicity on the cover of the Rolling Stone magazine. *The Journal of Popular Culture, 42*(2), 273–290. https://doi.org/10.1111/j.1540-5931.2009.00679.x

Pompper, D., & Merskin, D. (2020). The more things change? Social identity representations in "50 of the best kids' books published in the last 25 years". *The Journal of Popular Culture*, *53*(5), 1135–1159. https://doi.org/10.1111/jpcu.12959

Pompper, D., Soto, J., & Piel, L. (2007). Male body image and magazine standards: Considering dimensions of age and ethnicity. *Journalism & Mass Communication Quarterly*, *84*(3), 525–545. https://doi.org/10.1177/107769900708400308

Potter, W. J. (2014). A critical analysis of cultivation theory. *Journal of Communication*, *64*(6), 1015–1036. https://doi.org/10.1111/jcom.12128

Reich, S. M., Black, R. W., & Foliaki, T. (2018). Constructing difference: LEGO® set narratives promote stereotypic gender roles and play. *Sex Roles*, *79*(5–6), 285–298. https://doi.org/10.1007/s11199-017-0868-2

Rogoff, B. (2003). *The cultural nature of human development*. Oxford University Press.

Rogoff, B., Dahl, A., & Callanan, M. (2018). The importance of understanding children's lived experience. *Developmental Review*, *50*(Part A), 5–15. https://doi.org/10.1016/j.dr.2018.05.006

Rogoff, B., Moore, L., Correa-Chávez, M., & Dexter, A. (2014). Children develop cultural repertoires through engaging in everyday routines and practices. In J. Grusec & P. Hastings (Eds.), *Handbook of socialization* (pp. 472–498). Guildford Press.

Rozario, A. M., Masilamani, V., & Sriram, A. (2017). Kids' TV programming in India: A comparison of gender representation in imports versus locally produced programmes. *Athens Journal of Mass Media and Communications*, *3*(3), 207–227. https://doi.org/10.30958/ajmmc.3.3.3

Signorielli, N. (2001). Television's gender role images and contribution to stereotyping: Past, present, future. In D. Singer & J. Singer (Eds.), *Handbook of children and the media* (pp. 341–358). Sage.

Signorielli, N. (2012). Gender-role socialization in the twenty-first century. *The International Encyclopedia of Media Studies*, *5*(2), 1–23. https://doi.org/10.1002/9781444361506.wbiems116

Smith, S. L., & Cook, C. A. (2008). *Gender stereotypes: An analysis of popular films and tv. Research brief written for the Geena Davis Institute for Gender and Media*. Los Angeles, CA. https://seejane.org/wp-content/uploads/GDIGM_Gender_Stereotypes.pdf

Sovič, A., & Hus, V. (2015). Gender stereotype analysis of the textbooks for young learners. *Procedia-Social and Behavioral Sciences*, *186*(2015), 495–501. https://doi.org/10.1016/j.sbspro.2015.04.080

Spinner, L., Cameron, L., & Calogero, R. (2018). Peer toy play as a gateway to children's gender flexibility: The effect of (counter)stereotypic portrayals of peers in children's magazines. *Sex Roles*, *79*(5–6), 314–328. https://doi.org/10.1007/s11199-017-0883-3

Statista. (2016). Children's magazines ranked by print retail sales volume in the United Kingdom (UK) In *2016 (In Copies Sold)*. https://www.statista.com/statistics/321625/children-s-magazines-ranked-by-sales-volume-uk-2013/

Statista. (2019). Children's magazines ranked by sales volume in the United Kingdom (UK) 2018. https://www.statista.com/statistics/321625/children-s-magazines-ranked-by-sales-volume-uk-2013/

Strom Larson, M. (2001). Interactions, activities and gender in children's television commercials: A content analysis. *Journal of Broadcasting & Electronic Media*, *45*(1), 41–56. https://doi.org/10.1207/s15506878jobem4501_4

Sweet, E. (2014). Toys are more divided by gender now than they were 50 years ago. *The Atlantic*, *9*, 2014. https://www.theatlantic.com/business/archive/2014/12/toys-are-more-divided-by-gender-now-than-they-were-50-years-ago/383556/

Tenenbaum, H. R. (2009). 'You'd be good at that': Gender patterns in parent-child talk about courses. *Social Development*, *18*(2), 447–463. https://doi.org/10.1111/j.1467-9507.2008.00487.x

Tenenbaum, H. R., Hill, D. B., Joseph, N., & Roche, E. (2010a). 'It's a boy because he's painting a picture': Age differences in children's conventional and unconventional gender schemas. *British Journal of Psychology*, *101*(1), 137–154. https://doi.org/10.1348/000712609X433122

Tenenbaum, H. R., Prior, J., Dowling, C., & Frost, R. E. (2010b). Supporting parent-child conversations in a history museum. *British Journal of Educational Psychology*, *80*(2), 241–254. https://doi.org/10.1348/000709909X470799

Thompson, R. B., Arsenault, S., & Williams, D. (2006). The effects of preschool girls' and boys' help seeking on adult evaluations of dyadic problem solving. *Journal of Language and Social Psychology*, *25*(2), 146–166. https://doi.org/10.1177/0261927X06286381

Thompson, R. B., Cothran, T., & McCall, D. (2012). Gender and age effects interact in preschoolers' help-seeking: Evidence for differential responses to changes in task difficulty. *Journal of Child Language*, *39*(5), 1107–1120. https://doi.org/10.1017/S030500091100047X

Thompson, R. B., & Moore, K. (2000). Collaborative speech in dyadic problem solving: Evidence for preschool gender differences in pragmatic development. *Journal of Language and Social Psychology*, *19*(2), 248–255. https://doi.org/10.1177/0261927X00019002004

Voyer, D., & Voyer, S. D. (2014). Gender differences in scholastic achievement: A meta-analysis. *Psychological Bulletin*, *140*(4), 1174. https://doi.org/10.1037/a0036620

Vygotsky, L. S. (1987). Thinking and speech. In R. W. Rieber & A. S. Carton (Eds.), *The collected works of L.S. Vygotsky, Volume 1: Problems of general psychology* (pp. 39–285). New York: Plenum Press.

Walsh, A., & Leaper, C. (2020). A content analysis of gender representations in preschool children's television. *Mass Communication and Society*, *23*(3), 331–355. https://doi.org/10.1080/15205436.2019.1664593

Ward, L. M., & Friedman, K. (2006). Using TV as a guide: Associations between television viewing and adolescents' sexual attitudes and behavior. *Journal of Research on Adolescence*, *16*(1), 133–156. https://doi.org/10.1111/j.1532-7795.2006.00125.x

Wertsch, J. V. (1993). *Voices of the mind: Sociocultural approach to mediated action*. Harvard University Press.

Wertsch, J. V. (2017). Mediated action. In W. Bechtel & G. Graham (Eds.), *A companion to cognitive science* (pp. 518–525). Wiley Online Books. https://doi.org/10.1002/9781405164535.ch40

Wilbourn, M. P., & Kee, D. W. (2010). Henry the nurse is a doctor too: Implicitly examining children's gender stereotypes for male and female occupational roles. *Sex Roles*, *62*(9–10), 670–683. https://doi.org/10.1007/s11199-010-9773-7

Yates, D., Moore, D., & McCabe, G. (1999). *The Practice of Statistics*. Freeman.